EXTENSIVE THORACOTOMY FOR SARCOMA OF THE CHEST-WALL WITH ADHESIONS TO THE LUNG.

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FRANK COMSTOCK, æt. 33, from Machias, N. Y. Patient's family history good. Twenty years ago, he noticed a little nodule, no larger than a pea, about the middle of the outer aspect of his left leg, where he had previously bruised it. This enlarged very slowly until five years ago, when it began growing more rapidly. Seven months ago, Dr. King, of Machias, diagnosed a sarcoma, and removed it. Since then it has returned its old site. Early in February, of 1887, he consulted me by Dr. King's advice. I found a hard mass the size of my fist, imbedded in the tissues on the outside of the left leg, a little above the middle. The overlying skin was not much discolored nor very adherent. The patient states that the tumor is now larger than it was when first removed. My diagnosis was sarcoma, and I advised that he should submit to amputation; this was made a few days later by Dr. Clarence King, at the knee joint, and the wound healed kindly, with an excellent resulting stump. A piece of the growth was sent me for examination, and proved on examination to be a small, round celled sarcoma.

I heard nothing further from the case until January, 1888, when by Dr. King's advice the patient returned to consult me. At this time, he presented a growth, the size of a hen's egg, a little above and to the outer side of the left nipple; it was fast, tender, but with movable overlying skin, apparently involved the whole thickness of the thoracic wall; neighboring glands not involved. His general condition was good; chest expansion was normal, and on careful auscultation, no difference was detected between the sounds of the two lungs. There was no dulness on percussion in the neighborhood of the tumor; his main complaint was of severe pain; incidentally he acknowledged that he had been losing a little flesh of late. Without trying to determine exactly the extent of the tissue involved, I advised him to submit to

removal of the growth, if he desired any further operation; to this he willingly consented. January 21, 1888, in my clinic at the Buffalo General Hospital, the operation was made. Ether was the anæsthetic, which he took kindly. The skin over the tumor was separated without any difficulty, after a crucial incision had been made; on dissection it at once appeared that two, if not three, ribs were involved in the mass, and that total excision would be necessary. To this end, I began to separate the periosteum on the inner side of the last rib involved, at a short distance from the edge of the mass. The rib proved extremely fragile, broke during my efforts, and a spicule of bone was forced through the pleura. So soon as I saw that the pleural cavity was thus opened, I rapidly dilated the opening with my finger, and determined that the growth was larger on the inner side of the thorax than on the outer; also that there was adhesions in at least one place to the lung beneath. Having gone so far, I immediately decided to extirpate the entire mass, As rapidly as possible I excised the tumor with the four ribs which seemed involved, and which proved to be the fourth, fifth, sixth and seventh; thus taking out a portion of the thoracic wall, some five inches in length by $3^1/_2$ inches in width. After removing all of the thoracic attachments, I found that the band of adhesion connecting it with the lower border of the upper lobe of the lung, was long enough to tie, and after throwing around it a strong ligature, the mass was easily detached. During and after its removal, a beautiful demonstration of the action of the heart in its pericardial sac was afforded. Hasty examination of the left lung, both ocular and by palpation, revealed numerous nodules scattered through the lung tissue of both lobes and on their surface. Had there been a single sarcomatous mass accessible, I should have excised a portion of the lung. Under these circumstances, such a measure was out of the question.

During all this procedure, his respiration was but slightly disturbed, it became more rapid, but the rhythm was not much altered; his pulse, however, became quite weak and stimulants were frequently given hypodermically. As quickly as I could, I checked what little hæmorrhage there was, and closed the wound with numerous continuous sutures; over this iodoform was dusted and an antiseptic compress snugly bandaged down. At the close of the operation his face was slightly cyanosed; his pulse was 140; his respirations 30 to the minute.

Within the hour he was conscious and complained of great pain, which was checked by morphine subcutaneously administered. Dur-

ing the ensuing night he was quite restless and required anodynes in large amount. At one time his pulse was as high as 170 and very feeble. On the following day, the temperature was 97°, pulse 130, of fair volume. He was comparatively comfortable and taking sufficient nourishment. For the ensuing few days he progressed very favorably, only once was his temperature as high as 101.1°; his respiration rate fluctuated between 30 and 50 for two or three days; his left lung seemed to be inflated to a considerable extent. January 27, at noon, his face was a little cyanosed and anxious; his respiratory murmur on the left side had lost the vesicular character which for three days it had had; he was very faint; dressing had not been changed at all. Towards evening he began to fail and became delirious. He died early the following morning.

Five hours later, I reopened the wound, which it was found had completely united by first intention. The cavity of the left pleura was filled with a bloody serum, in which the lung seemed to have macerated, since it was soft and tore easily. This fluid had no odor at all. The hand was passed into the right pleural cavity, and it was found that the right lung was just as much studded with sarcomatous nodules as the left.

COMMENTS.—The equal affection of the two lungs will account for the fact that on auscultation, previous to operation, no difference was detected. The tumor itself was too tender to admit of percussion within $1^1/_2$ inches of the periphery; had this not been so, possibly more information might have beenelicited on percussion. Aside from the very slight emaciation of the patient, which he explained by saying pain had kept him in the house of late, there was nothing about the general appearance of the patient or the features which he presented to lead one to suspect any such extensive internal lesion as was found.

Previously reported cases, to which I have called attention in an article published in the ANNALS OF SURGERY for May, 1887, have demonstrated the fact that one side of the thorax may be operated on extensively without any alarming disturbance, or requiring resort to artificial respiration. These cases had prepared me to proceed to excision of the lung without hesitation, had circumstances favored the procedure. As it was, nothing of the kind was practicable. How long the fluid

which the autopsy showed, had been present, I could not positively say. Until forty-eight hours before his death, a fair respiratory murmur had been heard on the left side, wherever I could listen without disturbing the dressing. Considering the necessarily fatal character of his condition, I had not thought it worth while to remove the dressing, in order to make any further investigation. It seems to me that this accumulation was rather of the nature of an œdematous collection. The blood-stained fluid was almost pure serum; no hæmorrhage, other than the slightest oozing, took place after the wound was closed.

Microscopical examination of the thoracic tumor showed it to be a small spindle cell sarcoma, while the nodules found in the lung of the same side, showed distinct sarcomatous elements, but of round cells. It is of some pathological interest to know how secondary growths may vary in type from that of the parent tumor.

CASE OF PENETRATING GUNSHOT WOUND OF THE ABDOMEN, WITH WOUND OF INTESTINE AND FÆCAL EXTRAVASATION; LAPAROTOMY; INTESTINAL SUTURE; RECOVERY.

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ON MAY 6, 1888, Herman L., æt. 19 years, was shot in the abdomen by the accidental discharge of a 38 calibre revolver, held in the hands of a companion.

An hour later he was carried to the Cook County Hospital, about one mile distant. On admission he was suffering from shock and complained of some pain.

Catheterization of the bladder showed no blood; an aseptic dressing was applied over the wounded abdomen. Four hours later, I arrived at the hospital, and found the patient with a somewhat quickened respiration, a temperature of 101.8°F.